

# NuTheories: Beyond the $3 \times 3$ Paradigm at Current and Near-Future Facilities

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## Constraining Leptonic Flavour Model Parameters

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The observed pattern of mixing in the neutrino sector may be explained by the presence of a non-Abelian, discrete flavour symmetry broken into residual subgroups at low energies. These flavour models require the presence of Standard Model singlet scalars, namely flavons, which can promptly decay to charged leptons in a flavour-conserving or violating manner. In this talk, I will present the constraints on the model parameters of an  $A_4$  leptonic flavour model using a synergy of  $g-2$ , charged lepton flavour conversion and collider data. The most powerful constraints derive from the \meg collaboration's result on  $\mu \rightarrow e\gamma$  and the reinterpretation of an 8 TeV ATLAS search for anomalous productions of multi-leptonic final states.

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